

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
11 December 2003 (11.12.2003)

PCT

(10) International Publication Number
WO 2003/102511 A3

(51) International Patent Classification⁷: G01F 1/74,
1/32, 1/66

(21) International Application Number:
PCT/GB2003/002376

(22) International Filing Date: 30 May 2003 (30.05.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0212739.7 31 May 2002 (31.05.2002) GB

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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
4 March 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2003/102511 A3

(54) Title: MONITORING OF TWO-PHASE FLUID FLOW USING A VORTEX FLOWMETER

(57) Abstract: In a method of monitoring two-phase fluid flow a vortex flowmeter is used to generate a signal indicative of the flow regime using the signal components and its fluctuations to determine the phase status of the fluid flow.

INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/GB 03/02376

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G01F1/74 G01F1/32 G01F1/66

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 G01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FOUSSAT A J M, HULIN, J-P: "VERTICAL LIQUID-LIQUID AND LIQUID-GAS TWO-PHASE FLOW MEASUREMENTS WITH A VORTEX FLOW METER" MEASURING TECHNIQUES IN GAS-LIQUID TWO-PHASE FLOWS, SYMPOSIUM, 1984, pages 651-676, XP001156346 Nancy, France the whole document	1-8, 10-17
Y	— —/—	9

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Patent family members are listed in annex.

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Date of the actual completion of the International search

9 December 2003

Date of mailing of the International search report

05/01/2004

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INTERNATIONAL SEARCH REPORT

Internal	Application No
PCT/GB	03/02376

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	"Statistical characterization of air water bubbly flow using differential pressure drop measurements" PROCEEDINGS OF THE FLUIDS ENGINEERING CONFERENCE, 20 - 24 June 1993, pages 137-144, XP009022351 Washington, DC, USA the whole document ---	1-8, 10-17
Y	MI Y ET AL: "FLOW REGIME IDENTIFICATION METHODOLOGY WITH NEURAL NETWORKS AND TWO-PHASE FLOW MODELS" NUCLEAR ENGINEERING AND DESIGN, AMSTERDAM, NL, vol. 204, no. 1-3, February 2001 (2001-02), pages 87-100, XP001020470 ISSN: 0029-5493 the whole document ---	9
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P,X	PUSAYATANONT M ET AL: "Two-phase flow measurement based on the analysis of the sensor signal from a conventional vortex flowmeter" PROCEEDINGS 11TH INTERNATIONAL CONFERENCE ON FLOW MEASUREMENT (FLOMEKO 2003), 12 - 14 May 2003, pages 1-8 of paper 128, XP002264396 Groningen, Netherlands the whole document ---	1-17
A	US 4 876 897 A (DECARLO JOSEPH P ET AL) 31 October 1989 (1989-10-31) column 5, line 39 -column 8, line 23; figures ----	1-17

INTERNATIONAL SEARCH REPORT

Information on patent family members

Interns Application No
PCT/GB 03/02376

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4876897	A 31-10-1989	NONE	